

only two were less than 200 mg/L; the average of the samples was 265 mg/L. Therefore, it was concluded that the 85 mg/L is not representative of the effluent, particularly since the hardness of the groundwater is not expected to change over time. The next lowest hardness value of 120 mg/L as CaCO<sub>3</sub> was used for purposes of establishing criteria for copper, chromium III, nickel, zinc and cadmium (chronic).

For those metals where the regulatory criteria exhibit a concave upward relationship as a function of hardness, a water quality objective based on either the effluent hardness or the receiving water hardness would not be protective under all mixing scenarios. Instead, a water quality objective that accounts for both the hardness of the receiving water and the effluent is required. The following equations provide fully protective water quality criteria for those metals that exhibit a concave upward relationship.

$$\text{CTR Criterion} = \left[ \frac{m}{H_{rw}} \cdot (H_{eff} - H_{rw}) + 1 \right] \cdot e^{m \cdot \ln(H_{rw}) + b} \quad (\text{Equation 2})$$

Where:

$H_{eff}$  = lowest recorded effluent hardness  
 $H_{rw}$  = highest recorded receiving water hardness  
 $b$  = metal- and criterion-specific constant  
 $m$  = metal- and criterion-specific constant

Because the lowest receiving water hardness is less than the lowest effluent hardness, using the lowest recorded receiving water hardness increases the difference between the hardness of the two waters and leads to the development of more restrictive water quality criteria. Therefore, for cadmium (acute), lead, and silver (acute) water quality criteria were calculated using Equation 2 with an effluent hardness of 120 mg/L as CaCO<sub>3</sub> (as described above for Equation 1) and a lowest reported receiving water hardness of 40.5 mg/L as CaCO<sub>3</sub>, based on 18 samples taken between July 2003 and November 2007.

- c. **Assimilative Capacity/Mixing Zone.** At times, the Stockton Diverting Canal may provide little or no assimilative capacity, due to its seasonal and/or ephemeral nature. Therefore, final water quality-based effluent limitations have been developed using a steady state model with no credit provided for dilution.

Preliminary data provided by the Discharger indicate the Stockton Diverting Canal may provide some dilution and limited assimilative capacity for TDS; however, the receiving water characteristics have not been fully evaluated with respect to TDS.

To the extent seasonal assimilative capacity is available in the receiving water to accommodate constituents in the effluent that exceed reasonable potential criteria, this permit contains a re-opener to consider final effluent limitations

based upon demonstrated assimilative capacity. However, effluent limitations contained in this Order do not account for the receiving water having assimilative capacity.

### 3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."* (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *"...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)"* in Title 22 of CCR. The narrative tastes and odors objective states: *"Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."*
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge at Discharge Point No. 001 has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for arsenic, chromium, copper and electrical conductivity (EC). As discussed in Section IV.C.3.I. of this Fact Sheet, no effluent limitations are being established for EC. Effluent limitations for copper are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.
- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction *"[t]he goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency."* Therefore, in this Order the RPA

procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

- d. Order No. R5-2003-0030 established monitoring requirements for metals reported as total recoverable concentration. However, the Discharger reported monitoring data results over the term of Order No. R5-2003-0030 in dissolved fractions for arsenic, chromium, chromium (VI), copper, and iron. The Basin Plan includes numerical water quality objectives for chemical constituents that are expressed as dissolved fractions. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The RPA was conducted on the dissolved metals data, and if reasonable potential was identified, then WQBELs were developed and expressed as total recoverable using the USEPA recommended conversion factors to translate dissolved concentrations to total concentrations. If the USEPA had not developed a conversion factor and no site-specific translator was available, a conversion factor of 1 was assumed.
- e. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- f. **Arsenic.** The USEPA Primary Maximum Contaminant Level (MCL) is 10 µg/L for arsenic. Pursuant to the Safe Drinking Water Act, DHS must revise the arsenic MCL in Title 22 CCR to be as low or lower than the USEPA MCL. Applying the Basin Plan's "Policy for Application of Water Quality Objectives", to protect future municipal and domestic water use, it is reasonable to apply the USEPA MCL for arsenic to the receiving stream.

The MEC for dissolved arsenic was 8.0 µg/L based on 54 samples collected between June 2003 and December 2007, while the maximum observed upstream receiving water arsenic concentration (dissolved) was 2.0 µg/L based on 18 samples collected between July 2003 and December 2007. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. In the absence of a site-specific conversion factor, the USEPA has established a default dissolved-to-total conversion factor of 1 for arsenic. Assuming a conversion factor of 1 (i.e., the dissolved concentration equals the total concentration), the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the USEPA Primary MCL. However, based on Step 7 in Section 1.3 of the SIP and since arsenic is a pollutant of concern at the Facility, the final average monthly effluent limitation of 10 µg/L established in Order No. R5-2003-0030 is retained in this Order in accordance with Section 1.3 Step 7 of the SIP.

- g. **Chlorine Residual.** Order No. R5-2003-0030 established a MDEL and AMEL of 0.02 µg/L and 0.01 µg/L, respectively, for total residual chlorine based on monitoring results from January 2001 through May 2002. The source of chlorine was unknown. However, monitoring data from June 2003 through December 2007 indicate no detectable amounts of chlorine. The Discharger confirmed that no chlorine or chlorine-containing compounds are used in Facility processes and

- h. **Chromium (Total).** The California Primary Maximum Contaminant Level (MCL) is 50 µg/L for total chromium. The MEC for total chromium (as dissolved) was 17 µg/L based on 52 samples collected between June 2003 and December 2007, while the maximum observed upstream receiving water total chromium concentration (as dissolved) was 5.0 µg/L based on 18 samples collected between July 2003 and December 2007. A conversion factor of 1 was assumed to convert the dissolved data to total concentration. Based on the data, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the USEPA Primary MCL. However, since chromium is a pollutant of concern at the Facility and one in which the groundwater treatment system is specifically designed to control, the final AMEL of 50 µg/L established in Order No. R5-2003-0030 is retained in this Order in accordance with Section 1.3 Step 7 of the SIP.
- i. **Chromium VI (Hexavalent Chromium).** The CTR includes maximum 1-hour average and 4-day average chromium VI concentrations of 16 µg/L and 11 µg/L, respectively, for the protection of freshwater aquatic life. The MEC for chromium VI (as dissolved) was 3.4 µg/L based on 52 samples collected between June 2003 and December 2007, while the maximum observed upstream receiving water chromium VI concentration (as dissolved) was 0.2 µg/L based on 18 samples collected between July 2003 and December 2007. Therefore, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria. Although the MEC for chromium VI is lower than the most stringent applicable criteria, and some assimilative capacity exists in the receiving water, as allowed under Section 1.3 Step 7 in the SIP, and based on new hardness data, new effluent limitations are being established in this Order. No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for chromium VI of 5.7 µg/L and 16.3 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-5 for WQBEL calculations). Since the Discharger operates treatment processes specific to the removal of chromium VI, and with proper operation of the existing treatment facilities, results of monitoring indicate the Discharger is capable of meeting the new effluent limitations.
- j. **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. Using the worst-case measured hardness from the effluent (120 mg/L, as CaCO<sub>3</sub>, respectively), the applicable chronic criterion is 10.47 µg/L and the applicable acute criterion is 15.96 µg/L as dissolved copper.

The MEC for dissolved copper was 7.3 µg/L based on 55 samples collected between June 2003 and December 2007. The maximum observed upstream receiving water dissolved copper concentration was 7.0 µg/L based on 18 samples collected between July 2003 and December 2007. Although the MEC

for copper is lower than the most stringent applicable criteria, and some assimilative capacity exists in the receiving water, as allowed under Section 1.3 Step 7 in the SIP, and based on new hardness data, new effluent limitations are being established in this Order. No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for copper of 5.8 µg/L and 16.6 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (see Attachment F, Table F-6 for WQBEL calculations). Since the Discharger operates treatment processes specific to the removal of copper, and with proper operation of the existing treatment facilities, results of monitoring indicate the Discharger is capable of meeting the new effluent limitations.

- k. **pH.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "...pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." Effluent Limitations for pH are included in this Order for Discharge Point No. 001 based on the Basin Plan objectives for pH.
- l. **Salinity.** The discharge may contain total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs, contains a narrative objective, and contains numeric water quality objectives TDS, chloride, sulfate, and EC.

**Table F-4. Salinity Water Quality Criteria/Objectives**

Parameter	Agricultural WQ Goal <sup>1</sup>	Secondary MCL <sup>2</sup>	Effluent	
			Average	Maximum
EC (µmhos/cm)	Varies <sup>3</sup>	900, 1600, 2200	989	1460
TDS (mg/L)	Varies	500, 1000, 1500	613	910
Sulfate (mg/L)	Varies	250, 500, 600	NA	NA
Chloride (mg/L)	Varies	250, 500, 600	NA	NA

<sup>1</sup> Agricultural water quality goals based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985).

<sup>2</sup> The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

<sup>3</sup> The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. An EC level of 700 umhos/cm is generally considered to present no risk of salinity impacts to crops. However, many crops are grown successfully with higher salinities.

- i. **Electrical Conductivity (EC).** The secondary MCL for EC is 900  $\mu\text{mhos/cm}$  as a recommended level, 1,600  $\mu\text{mhos/cm}$  as an upper level, and 2,200  $\mu\text{mhos/cm}$  as a short-term maximum. The agricultural water quality goal, that would apply the narrative chemical constituents objective, is 700  $\mu\text{mhos/cm}$  as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 700  $\mu\text{mhos/cm}$  agricultural water quality goal is intended to prevent reduction in crop yield, i.e., a restriction on use of water, for salt-sensitive crops, such as beans, carrots, turnips, and strawberries. These crops are either currently grown in the area or may be grown in the future. Most other crops can tolerate higher EC concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts. In addition, the northwestern portion of the Sacramento – San Joaquin Delta has been listed as an impaired water body pursuant to Section 303(d) of the Clean Water Act because of electrical conductivity.

A review of the Discharger's monitoring reports from June 2003 through December 2007 shows an average effluent for EC of 989  $\mu\text{mhos/cm}$ , with a range from 507  $\mu\text{mhos/cm}$  to 1,460  $\mu\text{mhos/cm}$  for 53 samples. These levels exceed the applicable objectives. The background receiving water EC concentration averaged 196  $\mu\text{mhos/cm}$  in 45 sampling events collected by the Discharger from July 2003 through December 2007.

- ii. **Total Dissolved Solids (TDS).** The secondary MCL for TDS is 500 mg/L as a recommended level, 1,000 mg/L as an upper level, and 1,500 mg/L as a short-term maximum. The recommended agricultural water quality goal for TDS, that would apply the narrative chemical constituent objective, is 450 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). Water Quality for Agriculture evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. The 450 mg/L water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops. Only the most salt sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher TDS concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the TDS, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

The average TDS effluent concentration was 613 mg/L; concentrations ranged from 299 mg/L to 910 mg/L for 53 samples collected by the Discharger from June 2003 through December 2007. These concentrations exceed the applicable water quality objectives. The background receiving water TDS ranged from 65 mg/L to 170 mg/L, with an average of 107 mg/L in

- iii. **Sulfate.** No reported monitoring data.
- iv. **Chloride.** No reported monitoring data.
- v. **Salinity Effluent Limitations.** Effluent limitations based on the MCL or the Basin Plan would likely require construction and operation of a reverse osmosis treatment plant. The State Water Board, in Water Quality Order 2005-005 (for the City of Manteca), states, "...the State Board takes official notice [pursuant to Title 23 of California Code of Regulations, Section 648.2] of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City's municipal wastewater effluent on a large scale should involve thorough consideration of the expected environmental effects." The State Water Board states in that Order, "Although the ultimate solution to southern Delta salinity problems have not yet been determined, previous actions establish that the State Board intended for permit limitations to play a limited role with respect to achieving compliance with the EC water quality objectives in the southern Delta." The State Water Board goes on to say, "Construction and operation of reverse osmosis facilities to treat discharges...prior to implementation of other measures to reduce the salt load in the southern Delta, would not be a reasonable approach."

The Regional Water Board, with cooperation of the State Water Board, has begun the process to develop a new policy for the regulation of salinity in the Central Valley. In a statement issued at the 16 March 2006, Regional Water Board meeting, Board Member Dr. Karl Longley recommended that the Regional Water Board continue to exercise its authority to regulate discharges of salt to minimize salinity increases within the Central Valley. Dr. Longley stated, "The process of developing new salinity control policies does not, therefore, mean that we should stop regulating salt discharges until a salinity Policy is developed. In the meantime, the Board should consider all possible interim approaches to continue controlling and regulating salts in a reasonable manner, and encourage all stakeholder groups that may be affected by the Regional Board's policy to actively participate in policy development."

Time Schedule Order (TSO) No. R5-2008-0011 requires the Discharger to meet a final AMEL of 500 mg/L by 1 February 2012; an interim monthly average TDS effluent limit of 850 mg/L was also established. The Regional Water Board staff guidance on salinity states that prescribing either TDS or EC limits is generally sufficiently protective of water quality standards for salt constituents. Therefore, this Order will require compliance with TDS effluent

limitations for control of salinity (i.e., no limitations for EC will be established in the Order).

This Order also requires the Discharger to implement salinity minimization measures to minimize any increases in effluent salinity due to treatment of the groundwater. Specifically, Special Provision VI.C.3.a. of this Order requires the Discharger to prepare and implement a salinity evaluation and minimization plan to address any salinity increases in the extracted groundwater resulting from treatment at the Facility.

m. **Toxicity.** See Section VI.C of the Fact Sheet regarding whole effluent toxicity.

#### 4. WQBEL Calculations

- a. As discussed in section IV.C.3 above, WQBELs for total chromium and TDS are based on the California MCLs, and WQBELs for arsenic are based on the USEPA Primary MCL, and they are applied directly as AMELs. WQBELs for pH are based on the Basin Plan objectives and applied directly as effluent limitations.
- b. Effluent limitations for chromium (VI) and copper were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations for this parameter.
- c. **Effluent Limitation Calculations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

$ECA_{acute}$  = effluent concentration allowance for acute (1-hour average) toxicity criterion

$ECA_{chronic}$  = effluent concentration allowance for chronic (4-day average) toxicity criterion

$ECA_{HH}$  = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

CMC = criteria maximum concentration (1-hour average)

CCC = criteria continuous concentration (4-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$\begin{aligned}
 & \overbrace{\text{AMEL} = \text{mult}_{\text{AMEL}} [\min(M_A \text{ECA}_{\text{acute}}, M_C \text{ECA}_{\text{chronic}})]}^{\text{LTA}_{\text{acute}}} \\
 & \text{MDEL} = \text{mult}_{\text{MDEL}} [\min(M_A \text{ECA}_{\text{acute}}, \underbrace{M_C \text{ECA}_{\text{chronic}}}_{\text{LTA}_{\text{chronic}}})] \\
 & \text{MDEL}_{\text{HH}} = \left( \frac{\text{mult}_{\text{MDEL}}}{\text{mult}_{\text{AMEL}}} \right) \text{AMEL}_{\text{HH}}
 \end{aligned}$$

where:  $\text{mult}_{\text{AMEL}}$  = statistical multiplier converting minimum LTA to AMEL  
 $\text{mult}_{\text{MDEL}}$  = statistical multiplier converting minimum LTA to MDEL  
 $M_A$  = statistical multiplier converting CMC to LTA  
 $M_C$  = statistical multiplier converting CCC to LTA

WQBELs were calculated for chromium (VI) and copper as follows in Tables F-5 and F-6 below.

**Table F-5. WQBEL Calculations for Chromium VI**

	Acute	Chronic
Criteria, dissolved (µg/L) <sup>(1)</sup>	16.0	11.0
Dilution Credit	No Dilution	No Dilution
Translator <sup>(2)</sup>	0.982	0.962
ECA, total recoverable <sup>(3)</sup>	16.3	11.4
ECA Multiplier <sup>(4)</sup>	0.15	0.28
LTA	2.47	3.19
AMEL Multiplier (95 <sup>th</sup> %) <sup>(5)(6)</sup>	2.32	<sup>(8)</sup>
<b>AMEL (µg/L)</b>	<b>5.7</b>	<sup>(8)</sup>
MDEL Multiplier (99 <sup>th</sup> %) <sup>(7)</sup>	6.59	<sup>(8)</sup>
<b>MDEL (µg/L)</b>	<b>16.3</b>	<sup>(8)</sup>

<sup>(1)</sup> CTR aquatic life criteria, based on a hardness of 120 mg/L as CaCO<sub>3</sub>.

<sup>(2)</sup> USEPA Translator used as default.

<sup>(3)</sup> ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.

<sup>(4)</sup> Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.

<sup>(5)</sup> Assumes sampling frequency n=>4.

<sup>(6)</sup> The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

<sup>(7)</sup> The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

<sup>(8)</sup> Limitations based on acute LTA (Acute LTA < Chronic LTA)

**Table F-6. WQBEL Calculations for Copper**

	Acute	Chronic
Criteria, dissolved (µg/L) <sup>(1)</sup>	15.96	10.47
Dilution Credit	No Dilution	No Dilution
Translator <sup>(2)</sup>	0.96	0.96
ECA, total recoverable <sup>(3)</sup>	16.62	10.90
ECA Multiplier <sup>(4)</sup>	0.15	0.28
LTA	2.49	3.05
AMEL Multiplier (95 <sup>th</sup> %) <sup>(5)(6)</sup>	2.34	<sup>(8)</sup>
<b>AMEL (µg/L)</b>	<b>5.8</b>	<sup>(8)</sup>
MDEL Multiplier (99 <sup>th</sup> %) <sup>(7)</sup>	6.67	<sup>(8)</sup>
<b>MDEL (µg/L)</b>	<b>16.6</b>	<sup>(8)</sup>

<sup>(1)</sup> CTR aquatic life criteria, based on a hardness of 120 mg/L as CaCO<sub>3</sub>.

<sup>(2)</sup> USEPA Translator used as default.

<sup>(3)</sup> ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.

<sup>(4)</sup> Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.

<sup>(5)</sup> Assumes sampling frequency n=>4.

<sup>(6)</sup> The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

<sup>(7)</sup> The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

<sup>(8)</sup> Limitations based on acute LTA (Acute LTA < Chronic LTA)

### Summary of Water Quality-Based Effluent Limitations Discharge Point No. 001

**Table F-7. Summary of Water Quality-based Effluent Limitations**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	5.8	16.6	--	--
Total Dissolved Solids	mg/L	500	--	--	--
pH	standard units	--	--	6.5	8.5

## 5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00) The Basin Plan also states that, "...effluent limits based upon acute biotoxicity tests of effluents will be prescribed

*where appropriate...*". USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, *"In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc."* Accordingly, and consistent with the requirements of Order No. R5-2003-0030, effluent limitations for acute toxicity have been included in this Order as follows:

**Acute Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay-----	70%
Median for any three or more consecutive bioassays -----	90%

- b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, *"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."* (Basin Plan at page <III-8.00). Chronic WET testing performed by the Discharger from September 2004 through March 2007 indicate that the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, a narrative effluent limit for chronic whole effluent toxicity has been established in the Order.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region<sup>1</sup> that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, *"In reviewing this petition and receiving comments from numerous interested*

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<sup>1</sup> In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a).

*persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits."* The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. However, the State Water Board found in WQO 2003-012 that, while it is not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for POTWs, permits must contain a narrative effluent limitation, numeric benchmarks for triggering accelerated monitoring, rigorous Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE) conditions, and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. Therefore, this Order includes a narrative effluent limitation for chronic toxicity and requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k). This Order also includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

#### **D. Final Effluent Limitations**

##### **1. Mass-based Effluent Limitations**

Order No. R5-2003-0030 included mass-based effluent limitations for copper, total chromium, chromium (VI), arsenic, TDS, and total residual chlorine. Pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), mass limitations for

these constituents are not carried over to this Order because the applicable standards (i.e., water quality objectives) are expressed in terms of concentration and mass limitations are not necessary to protect the beneficial uses of the receiving water.

## 2. Averaging Periods for Effluent Limitations

Title 40 CFR section 122.45 (d) requires maximum daily and average monthly discharge limitations for all continuous discharges other than publicly owned treatment works (POTWs) unless impracticable. Except for pH and acute toxicity, all effluent limitations are expressed as MDELs and AMELs. Effluent limitations for pH and acute toxicity are applied in accordance with the Basin Plan.

## 3. Satisfaction of Anti-Backsliding Requirements

Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in Section IV.C.3 above, the removal of effluent limitations for total residual chlorine is consistent with the anti-backsliding requirements of the CWA and federal regulations. The change in effluent limitation basis for copper from floating to a fixed effluent limitation is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Any impact on existing water quality will be insignificant.

## 4. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

### Summary of Final Effluent Limitations Discharge Point No. 001

Table F-8. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations				Basis <sup>1</sup>
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	mgd	0.72	0.94	--	--	DC
<b>Conventional Pollutants:</b>						
pH	standard units	--	--	6.5	8.5	BP
<b>Priority Pollutants:</b>						
Arsenic, Total Recoverable	µg/L	10	--	--	--	MCL
Chromium, Total Recoverable	µg/L	50	--	--	--	MCL
Chromium (VI)	µg/L	5.7	16.3	--	--	CTR
Copper, Total Recoverable	µg/L	5.8	16.6	--	--	CTR
<b>Non-Conventional Pollutants:</b>						

Parameter	Units	Effluent Limitations				Basis <sup>1</sup>
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total Dissolved Solids	mg/L	500	--	--	--	MCL
Acute Toxicity <sup>2</sup>	% survival	Minimum for any one bioassay - - 70% Median for any three or more consecutive bioassays - - 90%				BP

- <sup>1</sup> DC – Based on the design capacity of the Facility  
BP – Based on water quality objectives contained in the Basin Plan  
MCL – Based on the California Secondary Maximum Contaminant Level  
CTR –California Toxics Rule  
<sup>2</sup> Survival of aquatic organisms in 96-hour bioassays of undiluted waste.

**E. Interim Effluent Limitations– NOT APPLICABLE**

**F. Land Discharge Specifications – NOT APPLICABLE**

**G. Reclamation Specifications – NOT APPLICABLE**

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

**A. Surface Water**

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating

material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

#### **B. Groundwater**

1. The discharge of treated water to the soil flushing area shall not degrade groundwater quality outside of the recapture zone, as specified in Special Provisions Section VI.C.6.b. of the Order.

### **VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

#### **A. Influent Monitoring**

1. Influent monitoring is required to collect data on the characteristics of the contaminated groundwater and assess treatment plant performance. The monitoring frequency (quarterly) and sample type (grab) established in Order No. R5-2003-0030 for total dissolved solids, total chromium, total copper, and total arsenic are retained in this Order.
2. Influent samples shall be collected from each of the two treatment systems (ion-exchange and electrochemical reduction and precipitation) and should be representative of the influent to each system for the period sampled. Where applicable, the influent shall be collected at approximately the same time as effluent samples.

#### **B. Effluent Monitoring**

1. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream
2. Monthly effluent monitoring requirements established in Order No. R5-2003-0030 for flow, pH, electrical conductivity, temperature, dissolved oxygen, hardness (as CaCO<sub>3</sub>), total dissolved solids, total suspended solids, total chromium, chromium (VI), total copper, total arsenic, total iron, turbidity, and acute toxicity are retained in this Order. The monthly effluent monitoring requirement for total residual

chlorine is not retained in this Order as described in section IV.C.3.g. of this Fact Sheet.

3. Monitoring during the third year of the permit term for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established has been required in this Order in accordance with Section 1.3 of the SIP requiring industrial dischargers to conduct periodic monitoring for priority pollutants. Additional sampling may be required for priority pollutants found during the third-year sampling to provide sufficient data for renewal of the Permit. Wet and dry weather monitoring for TCDD-equivalents, and TCDD-equivalents in accordance with Section 3 of the SIP.

#### **C. Whole Effluent Toxicity Testing Requirements**

1. **Acute Toxicity.** Quarterly acute toxicity testing has been retained from Order No. R5-2003-0030 in order to demonstrate compliance with the effluent limitations for acute toxicity.
2. **Chronic Toxicity.** Chronic whole effluent toxicity monitoring data for the period from September 2004 to March 2007 indicate periodic exceedances above chronic toxicity criteria. Quarterly chronic whole effluent toxicity testing has been retained from Order No. R5-2003-0030 in order to demonstrate compliance with the narrative chronic whole effluent toxicity effluent limitation and the Basin Plan's narrative toxicity objective.

The chronic toxicity testing using 100% effluent and two controls established in the Monitoring and Reporting Program No. R5-2003-0030 is being retained for this Order due to fact that the Stockton Diverting Canal may provide little or no assimilative capacity, due to its seasonal and/or ephemeral nature. If toxicity is found in any tests, then the Discharger will be required to retest using the standard dilution series. A standard dilution series is required because of the unpredictable nature of flow in the Stockton Diverting Canal.

#### **D. Receiving Water Monitoring**

##### **1. Surface Water**

Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. During periods of flow in the Stockton Diverting Canal, monitoring of receiving water quality is to be included in the Monitoring and Reporting Program. All receiving water samples shall be grab samples.

- a. Monthly monitoring requirements established in Order R5-2003-0030 upstream and downstream of the discharge for pH, electrical conductivity, dissolved oxygen, and temperature have been retained in this Order. Monthly monitoring for flow upstream of the discharge has also been retained in the Order.

- b. Quarterly monitoring requirements established in Order R5-2003-0030 upstream and downstream of the discharge for total chromium, chromium (VI), total copper, total arsenic, TDS, TSS, TOC, turbidity, and hardness (as CaCO<sub>3</sub>; and concurrent with priority pollutant metals analyses) have been retained in this Order.
- c. Monitoring during the third year of the permit term for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established, has been required in this Order in accordance with Section 1.3 of the SIP requiring industrial dischargers to conduct periodic monitoring for priority pollutants. Additional sampling may be required for priority pollutants found during the third-year sampling to provide sufficient data for renewal of the Permit. Wet and dry weather monitoring for TCDD-equivalents and TCDD-equivalents in accordance with Section 3 of the SIP. This requirement only applies for the receiving water upstream of the discharge.

## **2. Groundwater – NOT APPLICABLE**

### **E. Other Monitoring Requirements – NOT APPLICABLE**

## **VII. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

### **B. Special Provisions**

#### **1. Reopener Provisions**

- a. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or

a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

- b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

## 2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Data results reported between 2004 and 2005 indicate the Discharger had periodic exceedances greater than 1 TUc. However, based on retest data, and data reported since 2006, there were no exceedances greater than 1 TUc. Therefore, Regional Water Board has determined that the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

**Monitoring Trigger.** A numeric toxicity monitoring trigger of  $> 1$  TUc (where TUc =  $100/\text{NOEC}$ ) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

**Accelerated Monitoring.** The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be

performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests every 2 weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991* (TSD). The TSD at page 118 states, "EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required." Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

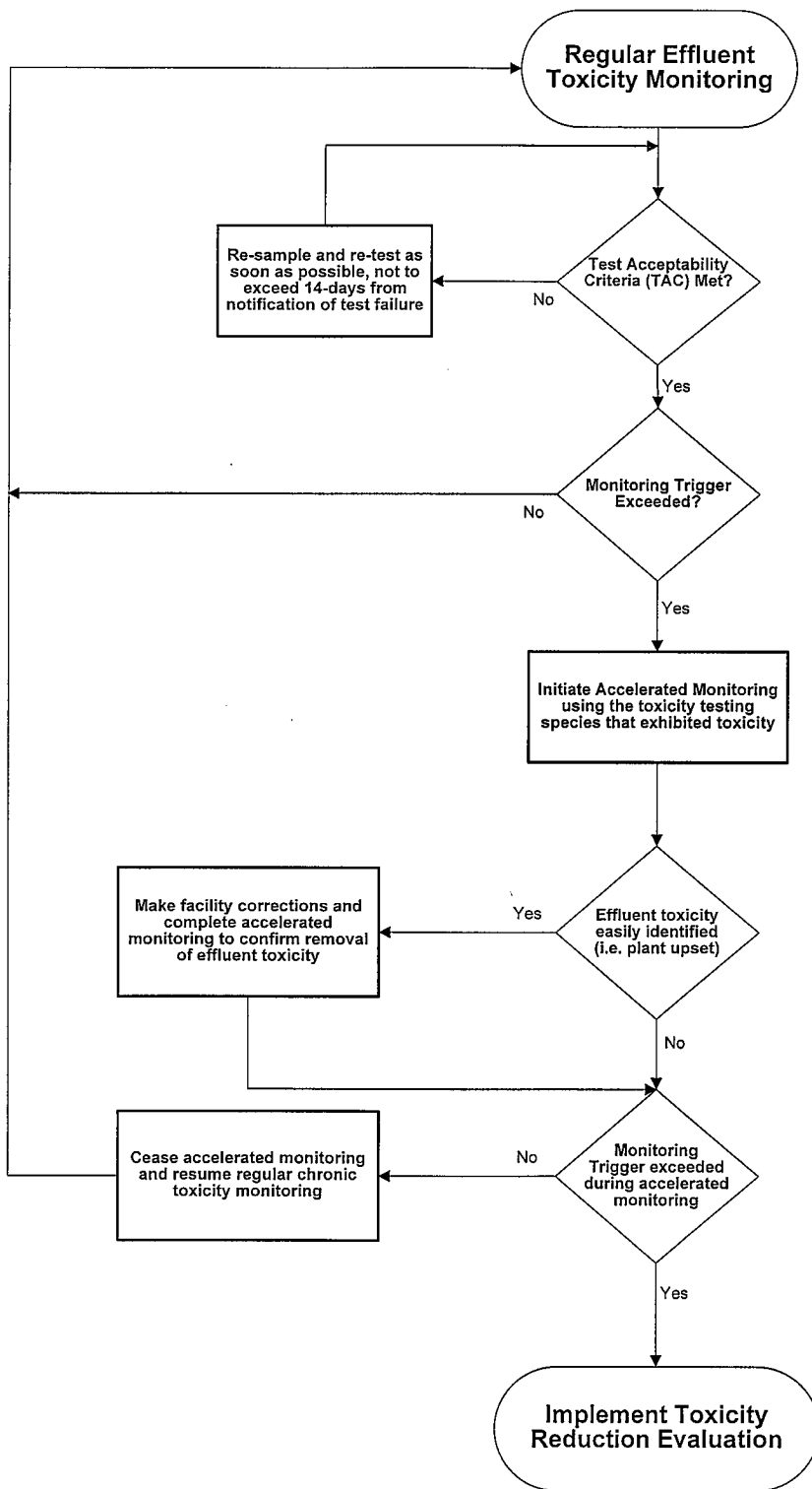
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

**TRE Guidance.** The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833B-99/002, August 1999.
- Generalized Methodology for Conducting Industrial TREs, EPA/600/2-88/070, April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/080, September 1993.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.
- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.
- *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

**Figure F-1**  
**WET Accelerated Monitoring Flow Chart**



### **3. Best Management Practices and Pollution Prevention**

- a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the Facility. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the adoption date of this Order** for the approval by the Executive Officer.

### **4. Construction, Operation, and Maintenance Specifications – NOT APPLICABLE**

### **5. Special Provisions for Municipal Facilities (POTWs Only) – NOT APPLICABLE**

### **6. Other Special Provisions**

- a. To minimize dewatering of the local aquifer and to aid in flushing of contaminants, approximately 5 percent of the treated water may be reinjected into shallow soils in the area of a closed retort pit. The injected water is then recaptured by the groundwater extraction system. Full capture of reinjected soil flushing water shall be maintained at all times.
- b. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.
- c. **Release Prevention/Contingency Measures Plans.** The previous Order No. R5-2003-0030 established the requirement for the Discharger to submit and implement release prevention and contingency measures plans for minimizing and controlling potential accidental discharges and for minimizing the effects of such events. These Plans were to include proposed modifications to the treatment system and a description implementation of additional monitoring and inspections in the event of an accidental discharge or spill. Within **three (3) months** of adoption of this Order, the Discharger is required to update and continue implementation of these Plans.

### **7. Compliance Schedules – NOT APPLICABLE**

## **VIII. PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for SPX Cooling Technologies. As a step in the WDR adoption process, the Regional Water Board

staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

#### **A. Notification of Interested Parties**

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through transmittal of the Notice of Public Hearing to known interested parties, posting of the Notice by the Discharger at the discharge facility, and posting of the Notice and tentative permit on the Regional Water Board web site.

#### **B. Written Comments**

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on 8 September 2008.

#### **C. Public Hearing**

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: 23/24 October 2008  
Time: 8:30 am  
Location: Regional Water Quality Control Board, Central Valley Region  
11020 Sun Center Dr., Suite #200  
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> where you can access the current agenda for changes in dates and locations.

#### **D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must

be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

**E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (916) 464-3291.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Ken Landau at (916) 464-4726.

## ATTACHMENT G - SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Arsenic	ug/L	8	2	10	340	150	-	-	-	10	No <sup>3</sup>
Chromium (total)	ug/L	17	5	50	-	-	-	-	-	50	No <sup>3</sup>
Electrical Conductivity	umhos/cm	1460	350	700 <sup>1</sup>	-	-	-	-	-	900	Yes
Iron	ug/L	245	N/A	300	-	-	-	-	-	300	No
Iron (dissolved)	ug/L	245	N/A	No criteria	-	-	-	-	-	-	No
Total Dissolved Solids	mg/L	910	170	500	-	-	-	-	-	500	Yes
Copper (dissolved)	ug/L	7.3	7.0	10.47	15.96	10.47	-	-	-	-	Yes <sup>2</sup>
Chromium VI (dissolved)	ug/L	3.4	0.2	11.00	16.00	11.00	-	-	-	-	No <sup>3</sup>

General Note: All inorganic concentrations are given as a total recoverable.

MEC = Maximum Effluent Concentration

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect

C = Criterion used for Reasonable Potential Analysis

CMC = Criterion Maximum Concentration (CTR or NTR)

CCC = Criterion Continuous Concentration (CTR or NTR)

Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)

Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)

Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective

MCL = Drinking Water Standards Maximum Contaminant Level

NA = Not Available

ND = Non-detect

### Footnotes:

1. Water Quality for Agriculture

2. Based on previous permit

3. Although the MEC for these pollutants is lower than the most stringent applicable criteria, as allowed under Section 1.3 Step 7 in the SIP, effluent limitations are being established (retained) in this Order.